

REMARKS

Claim 2 is being amended to correct a grammatical mistake, and claim 5 is being amended to change its dependency.

Reconsideration of the rejection of claims 1 – 5 under 35 U.S.C. §103(a) as unpatentable over U.S. patent no. 5,438,359 (“Aoki”) is respectfully requested. The manner in which the Office Action finds the method of the claims being carried out in the cited Aoki reference is not completely clear but believed to be based on a system interpreted to correspond to the claims as follows: the internal image memory 115 of the camera 1 is being taken to be the “non-volatile memory card” of the claims, and some unspecified portion of the camera 1 the “external device” but no element of Aoki is clearly alleged to correspond to the “input-output card” of the claims. Is the camera 1 also being alleged to be the “input-output card”? Alternatively, perhaps the memory card 3 was intended by the Office Action to be the claimed “input-output card,” since it is generally referenced. The computer 2 appears to be considered to be the claimed “host.”

It is respectfully submitted that this analysis pieces together elements disclosed in Aoki in an improper hindsight manner. But even assuming the identifications of elements of the Office Action to be reasonable, it is difficult to see how the data flow defined by the rejected method claims could possibly have been suggested by this view of the Aoki reference. Data is claimed in the present application to be communicated between the memory card (said to be internal camera memory 115) and the external device (said to be some unspecified other portion of the camera 1) through the input-output card (perhaps the memory card 3 but this is not clear) without passing through the host (the computer 2). No such data communication path can be found to be described in Aoki, nor does such a path make any sense for the operation of the camera 1 and inserted memory card 3, whether or not the camera 1 is inserted into the computer 2.

In addition, there is no suggestion in Aoki that the internal camera memory 115 is a “memory card.” Rather, it is an internal system electronic component, not a “card.” And no “input-output card” is found in Aoki to be electrically and mechanically attached to the memory 115. For any of these structural and operational reasons, it is respectfully

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suggested that the grounds of rejection of the claims are based upon an improper reading of the Aoki reference. Reconsideration is requested.

Further, dependent claim 3, and thus also claim 4, recite a particular electrical and mechanical connection between the memory and input-output cards. The Office Action references Figure 4 as describing this but there is again some confusion in the rejection about the elements of Aoki that are alleged to satisfy the claimed card limitations. Emphasis is placed on the memory card 3 and its socket 104 in the camera 1. Does this mean that the memory card 3 is being taken to be the input-output card of the claims? As discussed above, the rejection of claim 1 does not clearly state the element of Aoki that is considered to be the input-output card. If this is the Examiner's position, and the memory integrated circuit 115 taken to be the claimed non-volatile memory card, it is not seen how there is any suggestion in Aoki of "engaging mating connectors provided on edges of the memory and input-output cards" as recited in claim 3 (and thus also dependent claim 4). And nothing is seen in Aoki to "mechanically latch the memory and input-output cards together to resist their pulling apart" as expressed in claim 4. Further, if the memory card 3 of Aoki is taken to be the input-output card of the claims, nothing in Aoki has been found to suggest the communication of data directly between the non-volatile memory (taken in the Office Action to be memory 115) through the input-output card (apparently taken to be the memory card 3) and an external device (some unspecified portion of the camera 1) as recited in parent claim 1.

With respect to dependent claim 2, Official Notice has been taken of the obviousness of including an antenna within the input-output card for communication with the external device. Objection is hereby made to the taking of Official Notice of this. It is not understood why anyone would have contemplated adding an antenna to the memory card 3 of Aoki, if indeed the Office Action is alleging that this corresponds to the claimed input-output card. The antenna is specified in claim 2 for communicating between the input-output card and the external device. But the view of the Office Action has the claimed input-output card (apparently the memory card 3) physically connected with the claimed external device (some unspecified part of the camera 1). It is not understood why one of ordinary skill would have thought to add an antenna for radio-frequency communication between the two. Absent citation of a reference as evidence

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that this change to Aoki would have been obvious, this rejection, it is respectfully submitted, should not be maintained.

Dependent claim 5 adds to the combination of claims 1, 3 and 4 that a controller in the non-volatile memory card (taken to be alleged to be the memory integrated circuit 115) handles the transfer of data between its memory and both the host (taken to be the computer 2) and the external device (taken to be some unspecified portion of the camera 1). But there is no mention in Aoki that the memory 115 even has a controller, yet alone one that transfers data in the manner recited in claim 5. The memory 115 is described by Aoki to be a usual type of random-access-memory (RAM) without a controller.

If any portion of a rejection over the Aoki reference is maintained, it is respectfully requested that the elements of that reference alleged to correspond to elements of the claims be clearly stated. Once that is done, it should be clear that the communication method defined by the present application claims 1 – 5 cannot exist in the system of Aoki.

New claims 6 and 7 are dependent upon claim 1, and thus are submitted to be allowable for the same reasons as claim 1. In addition, claim 6 recites particular types of memory cards that are not referenced in Aoki and particularly would not be useful as the internal memory 115 of the camera 1. Claim 7 is similar to claim 5 but in different scope and with a different dependency.

New independent claim 8 includes many of the novel features discussed above with respect to rejected claims 1 – 5. Particularly, the memory card is specified to have a controller that communicates data between its non-volatile memory and either the host or the external device without passing through the host. Nothing has been found in the cited Aoki reference that suggests this communication method. New dependent claims 9 and 10 are believed to be patentable for the same reasons as claim 8, plus because of their specifying wireless communication and the type of memory card used, respectively.

In addition to reciting the electrical signal and data circuits, new independent apparatus claims 11 – 16 are very specific to the physical arrangement of the interconnectable memory and input-output cards. None of these features are described in the cited Aoki reference. Examination of the new claims 6 – 16 being added by this Amendment is respectfully requested.

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Information Disclosure Statement

A Supplemental Disclosure Statement is being filed herewith. Consideration of the listed references and making them of record in the file of this application are respectfully requested.

Conclusion

An early indication of the allowance of the present application is solicited.

EXPRESS MAIL LABEL NO.

EU877117943US

Respectfully submitted,



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AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

2. (Amended) The method of claim 1, wherein data [is] are wirelessly communicated between the input-output card and the external device through an antenna included within the input-output card.

5. (Amended) The method of claim [1] 4, wherein communicating data between the memory card and the external device through the input-output card utilizes a controller in the memory card that also controls the transfer of data between the memory in the memory card and the host system.

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Application No.: 09/653,062

Express Mail No.: EU877117943US

TEXT OF ALL APPLICATION CLAIMS AFTER AMENDMENT

1. A method of communicating data between a non-volatile memory card connected with a host system and an external device, comprising electrically and mechanically attaching an input-output card to the memory card and communicating data between the memory card and the external device through the input-output card rather than through the host system.

2. (Amended) The method of claim 1, wherein data are wirelessly communicated between the input-output card and the external device through an antenna included within the input-output card.

A1 3. The method of claim 1, wherein attaching the input-output card to the memory card includes engaging mating connectors provided on edges of the memory and input-output cards, wherein the memory card connector is positioned on an opposite side of the memory card from an edge along which electrical contacts are positioned that are connected with the host.

4. The method of claim 3, wherein engaging mating connectors includes laterally pushing said mating connectors together in a manner to automatically both establish electrical contact between and mechanically latch the memory and input-output cards together to resist their pulling apart.

5. (Amended) The method of claim 4, wherein communicating data between the memory card and the external device through the input-output card utilizes a controller in the memory card that also controls the transfer of data between the memory in the memory card and the host system.

6. (New) The method of claim 1, wherein the non-volatile memory card includes either a SD card or a MMC card that has been modified to allow electrical and mechanical attachment of the input-output card thereto.

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7. (New) The method of claim 1, wherein the non-volatile memory card operates to pass data between the host and non-volatile memory through a controller in the memory card, and wherein communicating data between the memory card and the external device includes passing data between the non-volatile memory and the external device through the controller within the memory card.

8. (New) A method of programming and reading a re-programmable non-volatile memory within a memory card that also contains a controller for operating the memory and interfacing the memory with a host system to which the memory card is removably connected, comprising:

removably attaching an input-output card directly to the memory card in a manner to be electrically connected with the memory card controller,

programming data from an external device to the non-volatile memory through the input-output card and the memory card controller without the programmed data passing through the host system, and

reading data from the non-volatile memory through the memory controller and the input-output card to the external device without the read data passing through the host system.

9. (New) The method of claim 8, wherein both the programmed data and the read data are wirelessly communicated between the input-output card and the external device through an antenna included within the input-output card.

10. (New) The method of claim 8, wherein the non-volatile memory card includes either a SD card or a MMC card that has been modified to allow electrical and mechanical attachment of the input-output card thereto.

11. (New) A data storage and transfer system including an enclosed rectangularly shaped memory card and an enclosed rectangularly shaped input-output card, wherein:

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(A) the memory card comprises:

first and second sets of externally accessible electrical contacts positioned along respective first and second edges thereof,

a re-programmable non-volatile memory contained therein for the storage of data,

a controller contained therein, said controller being connected to the memory and to the first and second sets of electrical contacts, the controller managing operation of the memory and causing data to be transferred (a) between the memory and through the first set of contacts to a host system connected therewith, and (b) between the memory and through the second set of contacts to the input-output card connected therewith without passing through the first set of contacts, and

a mechanism provided on an outside of the memory card along the second edge thereof for connection to the input-output card, and

(B) the input-output card comprises:

a third set of externally accessible electrical contacts along one edge thereof with a pattern complementary to that of the second set of contacts,

a mechanism provided on an outside of the input-output card along said one edge thereof that mates with the mechanism on the memory card in order to allow removeable connection together of the memory and input-output cards along their respective second and one edges such that their respective second and third set of electrical contacts mate when the cards are connected together,

communication circuits contained therein and connected with the third set of contacts for transferring data therethrough, and

a data transmission and reception device connected to the communications circuit for transferring data between the communications circuit and external to the input-output card.

12. (New) The system according to claim 11, wherein the data transmission and reception device includes an antenna mounted within the input-output card.

13. (New) The system according to claim 11, wherein the data transmission and reception device includes a wire connector accessible from outside of the input-output card.

AD 14. (New) The system according to claim 11, wherein the first set of contacts of the memory card physically and electrically follows a Multi-Media Card (MMC) standard.

15. (New) The system according to claim 11, wherein the first set of contacts of the memory card physically and electrically follows a Secure Digital (SD) standard.

16. (New) The system according to claim 11, wherein first and second edges of the memory card are opposite each other.

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